# Transitioning Wood Fuel Energy as Catalyst for Landscape Restoration and Sustainability

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Findings from the project “Forest Landscape Restoration through a Sustainable Wood Energy Value Chain”

Implemented by:

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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TROPENBOS INTERNATIONAL Ghana

IUCN National Committee of The Netherlands

In cooperation with:

MINISTRY OF LANDS AND NATURAL RESOURCES

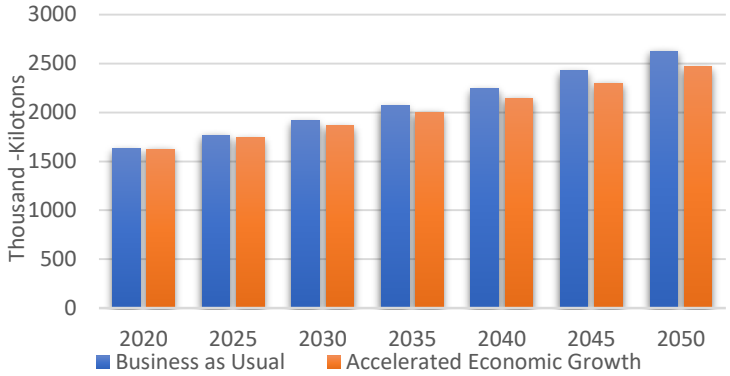
Ministry of Energy

On behalf of

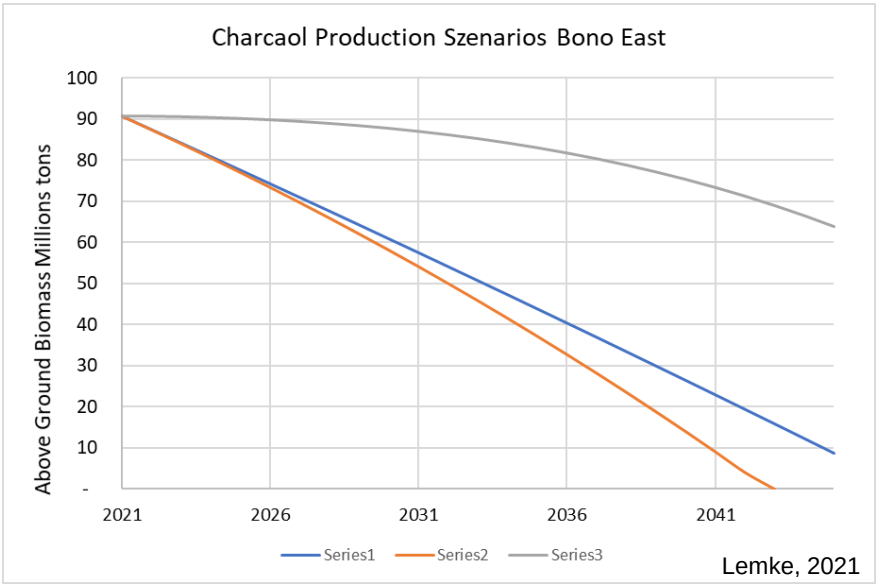
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

of the Federal Republic of Germany

# Charcoal as main driver for forest degradation




*Charcoal Demand Projections for Ghana,*
*(Energy Commission 2019)*




2.3 Mil. t charcoal/year produced =

>15 Mil. t wood needed every year!

1. Production of 3.6 Mil t/a, 0.4% annual biomass increase
2. Annual increase of production by 1.6%
3. Annual increase of biomass by 4%

# Forest restoration will only work if pressure on forests will be reduced

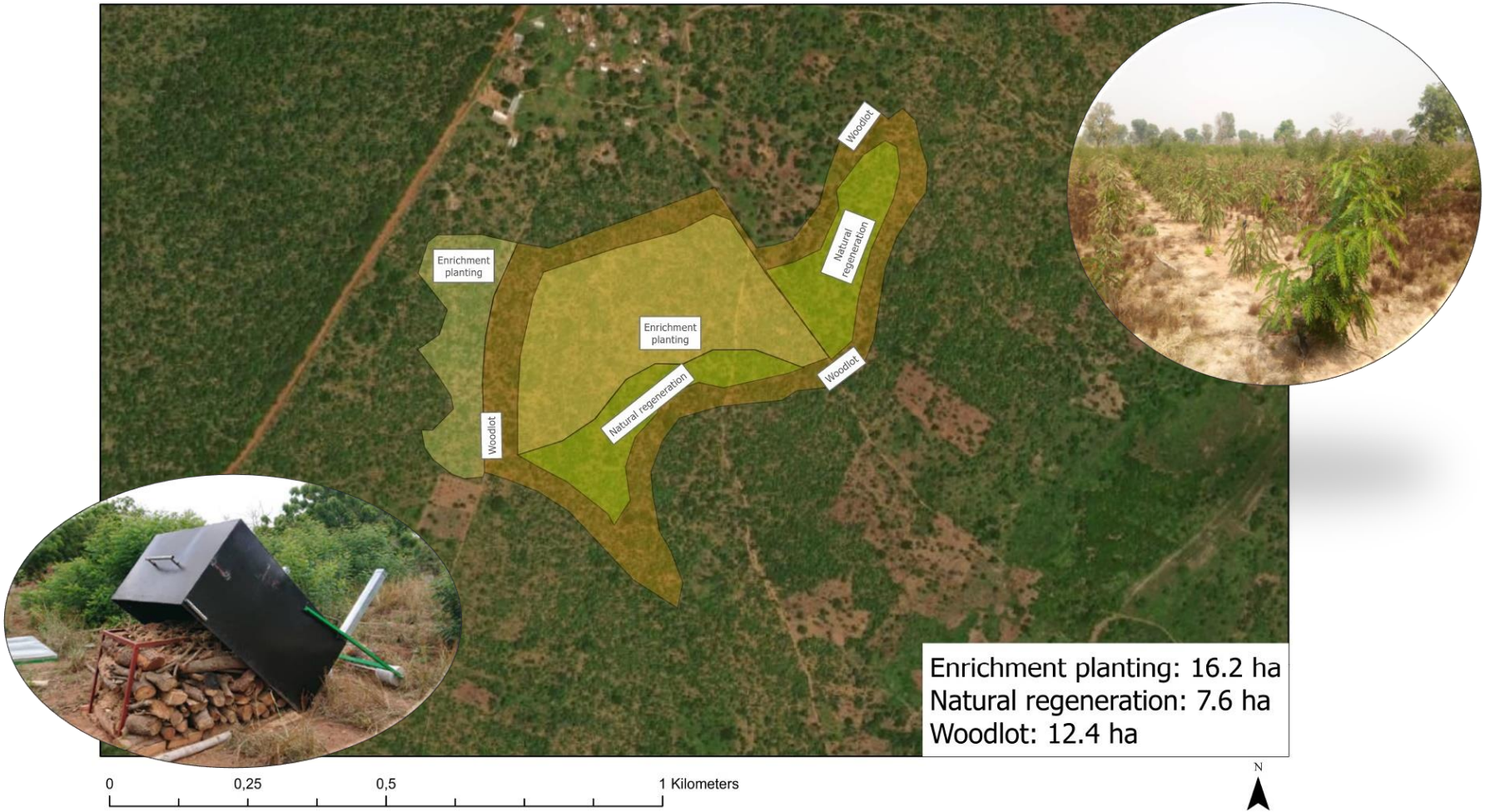
# Path to go:

**Sources of woody Biomass need to be increased**
- FMNR
- Agroforestry
- Woodlots

**Demand on woody Biomass needs to be reduced**
- More efficient charcoal production
- Reduced demand through efficient cook stoves
- Increase the use of alternative sustainable fuels

**Communities need to be more involved**
- Reduce risks of bush fire, cattle, farming
- Improve alternative livelihoods
- Better regulation and management of forest resources

# Combine fuel wood production with bush fire prevention



# Potential of improved kilns

| | | |
|---|---|---|
| **Charcoal production per year in Ghana around (Ministry of Energy, 2018)** | 2,351,000 | to/year |
| Wood needed using traditional kilns (~15% eff.) | 15,673,333 | to/year |
| Wood needed using improved kilns (~30% eff.) | 7,836,667 | to/year |
| Wood saved if 70% improved kilns are used | 5,485,667 | to/year |
| **CO2 emissions reduced** | 10,038,770 | to/year |

Transformation into a sustainable charcoal production will only work if it comes with **capacity support for the rural communities** and if its combined with a **functional regulation system** which includes livelihoods, protects stakes and which is restoration oriented

# Blueprint for Operational a Sustainability Model

**Governance Structure**
-
Charcoal Producer Database
Formation of Charcoal Producer Associations in all Districts -
Registration of Associations at Districts

**Appropriate Technology**.
-Training of Registered Groups in use of appropriate technology and improved kilns etc

**Stock Management Guidelines** -
Develop District level guidelines on species, locations and site management plans for charcoal production sites

**Compliance Certification**
- Certification for Charcoal Producers - Sustainability label for products
-Integrates Revenues/IGF & Restoration levy

**Landscape Resilience**
- Establishment of Fund for landscape restoration (Managed by Independent Board at District Level) -
Yearly restoration/Woodlot targets

**Green Charcoal Assurance System**

# Strategy for Delivery- Green Charcoal Bag


Produced, and labelled with the respective name of the District Assembly and appropriate Forest District name.

**Green Bags to be sold at District Assembly Finance Offices only.**

All charcoal producers will be required to purchase and use this control traceable bag to bag charcoal produced anywhere in the District.

Any charcoal that is not sold in this traceable green bag will be confiscated

**No charcoal shall be allowed to leave the District if it is not this green bagged.**

**Reduce multiplicity in regulation**

**Incentivize production at local level**

# Cost Build-up for Pricing of Green Bag


**Traditional Authority**

(Cost of royalties to traditional authorities/landowner -Consensus need to be reached with all stakeholders)

**GHS?**

**Forestry Commission**

(Cost of Conveyance to be determined with input from the Forestry Commission)

**GHS?**

**District Assembly**

(Local Government Authority fee per bag of charcoal- tandard weight to be determined and bag size made to accommodate the type)

**GHS?**

**Restoration Tax??**

**GHS?**

**Cost of Production of the Bag**

**GHS?**

**Cost of Green Bag**

**GHS ?**

# Thanks !

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